Depression After Traumatic Brain Injury

Key Clinical Issue

What is the relationship between traumatic brain injury (TBI), depression, and related psychological conditions? What evidence exists to guide screening and treatment for TBI-related depression and concomitant psychiatric conditions?

Background Information

TBI is a brain injury that occurs as a result of a blow to the head or other force from an event such as a motor vehicle crash, sports injury, fall, assault, or explosive blast. TBI is responsible for over 1.2 million emergency department visits a year. This number does not include TBI suffered in military service. Individuals with a mild case of TBI may not seek clinical care for their injury, leading to an underestimation. The Centers for Disease Control and Prevention estimates that up to 75 percent of TBI is mild.

Depression is one possible result of TBI. Overlapping symptoms of TBI and depression may make a diagnosis challenging. Depression reduces quality of life and impairs ability to function in social and work roles. In patients requiring physical therapy efforts, depression can undermine rehabilitation planning and treatment adherence.

The most salient consequence of depression is suicide. At least half of suicides occur in the context of a mood disorder.

While no single feature is seen in all depressed patients, common symptoms include sadness, persistent negative thoughts, apathy, lack of energy, fuzzy or irrational thinking, and an inability to enjoy normal events in life. Especially in a first episode, individuals and families may not recognize the changes as part of an illness, which makes identification and self-reporting of the condition challenging. Depression in patients with TBI may be comorbid with other psychiatric conditions, especially anxiety disorders.

Conclusions

Patients suffering from TBI are at an increased risk for depression, with prevalence rates (31 percent) that surpass the rates for the general population (8–10 percent). Increased prevalence is observed at multiple time points after injury. Because the risk of depression after TBI remains high over an extended period, early and continued screening over time may be warranted. Furthermore, severity of TBI has not been established as an accurate predictor of depression, suggesting the need for vigilance across all severities of TBI until more evidence is available. While evidence exists for treatment of depression in the general population, studies involving individuals who have sustained TBI are insufficient to guide treatment for this specific population.

A note about this Clinician Guide

A systematic review of 115 clinical studies was conducted by independent researchers, funded by AHRQ, to synthesize the evidence on what is known and not known on this clinical issue.

This topic was nominated through a public process. The research questions and the results of the report were subject to expert input, peer review, and public comment.

The results of this review are summarized here for use in your decisionmaking and in discussions with patients. The full report, with references for included and excluded studies, is available at www.effectivehealthcare.ahrq.gov/tbidep.cfm.

Clinical Bottom Line

Prevalence of Depression:

Regardless of the time since injury, the weighted average of the prevalence of depression secondary to TBI was 31 percent. *Level of Confidence:* ●●○

Predictors of Depression for Patients With TBI:

Evidence suggests that depression can occur after all forms and severities of TBI. *Level of Confidence:* ●○○

Evidence is insufficient to advise patients with TBI or their health care providers about other risk factors for depression, including age, gender, area of brain injured, or mechanism of injury. *Level of Confidence:* ○○○

Concomitant Psychiatric Conditions:

Potential for coexisting psychiatric conditions is common. Anxiety disorders—including general anxiety disorder, post-traumatic stress disorder, panic disorder, obsessive-compulsive disorder, and specific phobias—were the most commonly reported coexisting conditions. *Level of Confidence:* ●○○

Screening:

Timing: Depression following TBI occurs across all time frames. The evidence does not provide guidance toward an optimal time frame for screening. *Level of Confidence:* ●○○

Tools: Evidence is insufficient to determine optimal screening tools to screen patients with TBI for depression. *Level of Confidence:* ○○○

Treatment Options:

Evidence is insufficient to determine optimal treatment approaches for depression in patients with TBI. *Level of Confidence:* ○○○

Confidence Scale

High:	●●●	There are consistent results from good-quality studies. Further research is very unlikely to change the conclusions.
Moderate:	●●○	Findings are supported, but further research could change the conclusions.
Low:	●○○	There are very few studies, or existing studies are flawed.
Insufficient:	○○○	Research is either unavailable or does not permit estimation of a treatment effect.

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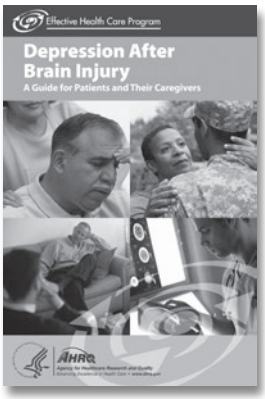
What To Discuss With Your Patients

- The prevalence of depression and other concomitant psychological conditions for patients with a history of TBI and the need for continued screening and communication concerning emerging symptoms.
- Common symptoms of depression, general anxiety disorder, post-traumatic stress disorder, and panic disorder.
- Possible drug interactions and common adverse effects of antidepressants.

Gaps in Knowledge

- Additional research on treatment options for patients with depression following TBI is a priority.
- Studies are needed to compare the effectiveness of diagnosis, screening time, and screening tools for patients with TBI who also have depression.
- Additional research is also needed to determine whether patient factors such as area of the brain injured, severity of the injury, mechanism of injury, age, and gender are predispositions for depression in patients with TBI.
- Studies pertaining to long-term outcomes and results of depression treatment in patients with TBI are needed to facilitate further comparison of the safety and effectiveness of treatments for TBI-induced depression.
- Consensus is needed on outcomes that are important to both clinicians and patients to ensure consistency and comparability across future studies.

Resource for Patients



Depression After Brain Injury, A Guide for Patients and Their Caregivers is a free companion to this clinician guide. It can help patients talk with their doctors. The guide is designed to help patients:

- Understand the connection between TBI and depression.
- Recognize the symptoms of depression and concomitant psychiatric conditions.
- Communicate symptoms effectively to health care providers.

Ordering Information

For electronic copies of *Depression After Brain Injury, A Guide for Adults and Their Caregivers,* this clinician guide, and the full systematic review, visit www.effectivehealthcare.ahrq.gov/tbidep.cfm. To order free print copies, call the AHRQ Publications Clearinghouse at 800-358-9295.

Source

The information in this summary is based on *Traumatic Brain Injury and Depression*, Comparative Effectiveness Review No. 25, prepared by the Vanderbilt University Evidence-based Practice Center under Contract No. 290-2007-10065-I for the Agency for Healthcare Research and Quality, March 2011. Available at www.effectivehealth care.ahrq.gov/tbidep.cfm. This summary was prepared by the John M. Eisenberg Center for Clinical Decisions and Communications Science at Baylor College of Medicine, Houston, TX.

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